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Sun Says Goodbye to Tough 2002, Expects Upbeat 2003

Unix leader to introduce new server blades, augment Solaris partitioning in 2003 and beyond.

By Stephen Swoyer | 12/17/2002

Sun Microsystems Inc. last week offered a recap of its tough 2002, along with an upbeat assessment of its prospects for 2003. During a conference call with analysts and journalists, Clark Masters, Sun's executive vice president for enterprise systems products, discussed Sun's server blade strategy, offered an explanation about why SPARC's future was rosier than that of the mainframe, and disclosed details about new software partitioning capabilities Sun will introduce into Solaris in 2003 or later.

Masters acknowledged that 2002 has been a difficult year for Sun and explained that some of the company's problems occurred as a result of its over-representation in specific vertical markets. "We were so over-focused on financial services and [telecommunications] that there were some customers that Sun never called on." To remedy that, Masters indicated, Sun planned to move aggressively into the retail, health services, and life sciences industries next year.

Jean Bozman, research manager of Unix and server operating environments, says Sun actually did very well in the low-end market during 2002. It was in the midrange and in the high-end, Bozman suggests, that Sun—and most other Unix vendors—suffered most. "Even though the overall server market declined by 5.6 percent, if you look at the entry[-level] server segment, that segment actually grew by about 5 percent. So what we see during the downturn is that there is a tremendous interest in buying entry servers."

Not surprisingly, then, Sun is looking to shore up its presence in the low-end. In 2003, Masters counseled, customers should "expect to see very aggressive offerings from Sun, with Intel blades as well as SPARC Solaris blades." While he didn't commit to a specific timetable, Masters indicated that Sun anticipates shipping blades based on both architectures sometime during the first half of 2003. Because large single systems typically power most enterprise datacenters, Masters said, Sun's blade offerings are aimed primarily at "stateless [applications] serving up data at the edge of the network."

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Earlier this month, Sun indicated that the first of its N1 technologies—the N1 Control Panel—would debut in conjunction with its new blades. N1, of course, describes a Sun initiative to virtualize network resources—servers, storage, software, network devices, etc.—in order to increase manageability and efficiency. In this context, N1 Control Panel is expected to function as a management portal that facilitates the administration of dozens of blades.

The popularity of blades belies an ugly truth about the way in which midrange and high-end servers are used in some enterprise environments. Gordon Haff, an analyst with consultancy Illuminata, says that companies typically embrace blades as an efficient means of maximizing server utilization within the context of a manageable offering, such as the N1 Control Panel. Estimates vary with respect to overall utilization on midrange and high-end servers, but Sun's Masters put the rate at between 15 to 20 percent. Simply by virtue of their smaller scale—typically one or two processors—the overall utilization rates of blades are typically much higher.

To that end, Masters indicated that through 2003 and beyond, Sun intends to dramatically increase the efficiency and manageability of its midrange and high-end servers. "The Unix community, I don't think, has done as well as the mainframe in getting efficiency up, so I think that if we can efficiently share resources

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In spite of its inherent efficiency, some customers have deserted the mainframe for Open systems and other platforms in recent years. Nevertheless, Masters said that he doesn't foresee a similar trend away from Solaris, thanks in large part to Sun's ability to leverage commodity parts and technologies in both its SPARC-based servers and its low-end Intel-based offerings such as the LX50. "The advantage that the open systems world [has] is that we can still leverage what is happening in the commoditization. I can use inexpensive DRAMs and leverage microprocessor technologies and those sorts of things, where I just put my investment in the interconnect and virtualization."

One way in which Sun plans to increase the efficiency of its large systems is to enhance its support for partitioning. Currently, explains Illuminata's Haff, Solaris supports a hardware-based partitioning model, which allows for a higher degree of fault tolerance and recovery at the expense of scalability and granularity. "A physical partition does a very effective job of isolating hardware faults, of isolating any kind of fault, any kind of activity between partitions." Unfortunately, Haff points out, Solaris can't support physical partitions smaller than two processors. This configuration suffers in comparison with the sub-processor partitioning capabilities of IBM's zSeries mainframes and iSeries minicomputers, along with the per-processor partitioning of Big Blue's pSeries Unix servers. Hewlett-Packard Co., for its part, supports both software and hardware partitioning on its PA-RISC-powered servers.

To remedy that, Masters indicated that Sun will introduce a technology called "Solaris Containers" which facilitates sub-processor partitioning. "The software thinks that it has its own instance of Solaris, but really it's sharing hardware resources behind the application's back, so we will go to the sub-processor with Solaris Containers." Although Masters didn't commit to a release date for the Solaris Containers technology, he did promise that an early access version would be released in 2003.

The upshot, Masters indicates, is that Sun's high-end servers must be made to support an agglomeration of what he called "virtual blades"—i.e., granular partitions—if they are to remain relevant. "If the high-end machines cannot effectively share resources and become very deployable virtual blades, so to speak...then the high-end will be relegated to just utility computing, [that is,] running things that cannot be run anywhere else."

According to Illuminata's Haff, Sun anticipates that by increasing the degree to which its servers can be virtualized, it will make them more attractive both to existing customers who want to maximize efficiency and manageability as well as to new customers who might otherwise opt for individual blades. "Sun clearly recognizes that particularly as they're talking about these virtual blades and the increased importance of very granular partitions moving forward. Clearly physical partitions that can't get any more granular than two or four processors aren't going to cut it."

About the Author

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